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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/879,467	06/20/1997	DENNIS A. DURBIN	DN38240R1	9545

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EXAMINER
CHEN, WENPENG

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary	Application No. 08/879,467	Applicant(s) DURBIN ET AL.	
	Examiner Wenpeng Chen	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _29 November 2000_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-18_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-18_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _21_ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

Continued Prosecution Application

1.   The request filed on 11/29/2000 for a Continued Prosecution Application (CPA) under 37

CFR 1.53(d) based on parent Application No. 08/879,467 is acceptable and a CPA has been

established. An action on the CPA follows.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-
(1) an application for patent, published under section 122(b), by another filed in the United States before the
invention by the applicant for patent, except that an international application filed under the treaty defined in
section 351(a) shall have the effect under this subsection of a national application published under section 122(b)
only if the international application designating the United States was published under Article 21(2)(a) of such
treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this
subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3.   Claims 1, 3, and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Bunte

et al. (US patent 5,821,523 listed in IDS paper #21.)

        a.   With regard to Claims 1 and 3, Bunte teaches a coded image capture and

decoding system comprising:

        -- a capture system comprising (column 5, lines 7-24; The system 100 in Fig. 3 is the

capture system.):

- an optical system that captures image data from coded targets; (element 102 of Fig. 1; The coded images are the coded targets.)

- a first processing circuit, coupled to the optical system, that generates a plurality of images based on image data received from the optical system; (column 5, lines 24-47; column 18, lines 5-11; column 19, line 51 to column 20, line 11; element 930 in Fig. 9)

- an image buffer, coupled to the first processing circuit, that stores the plurality of images generated by the first processing circuit; (column 6, lines 42-54; column 18, lines 5-11; column 19, line 51 to column 20, line 11; element 936 in Fig. 9)

-- a host system comprising (column 8, line 54 to column 9, line 51; column 9, lines 52-67; Both computer 307 and the computer in the mobile access device 308 are considered as the host system.):

- a non-dedicated second processing circuit, for coupling to the image buffer, that, at least after each of the plurality of images is stored in the image buffer and after a request by the capture system, attempts decoding processing of the plurality of images; (Each of the computers inherently has a CPU. The CPU is not a dedicated processing circuit. The passage in column 9, lines 52-67 specifically teaches (1) the request by the capture system and (2) the computer being used to perform the function of the hand-held unit including decoding processing of the plurality of images. The term "batch" in the passage in column 8, line 3 clearly teaches that a plurality of images is stored and then transmitted. The coupling to the memory is through the interface circuitries 926 and 934 in Fig. 9.)

-- wherein the number of the images is predetermined. (column 6, lines 1-14)

b.   With regard to Claims 15-18, Bunte teaches a coded image capture and decoding

system comprising:

-- a remote capture unit comprising (column 5, lines 7-24; The system 100 in Fig. 3 is the

capture system.):

- an image buffer that stores the plurality of images; (column 6, lines 42-54;

column 18, lines 5-11; column 19, line 51 to column 20, line 11; element 936 in Fig. 9)

-- a host image processing unit, operably coupled to the remote capture unit, (column 8,

line 54 to column 9, line 51; column 9, lines 52-67; Both computer 307 and the computer in the

mobile access device 308 are considered as the host system.) comprising:

- a processing circuit; (Each of the computers inherently has a CPU. The CPU has the

processing circuit.)

-- (1) code processing circuitry, communicatively coupled to the processing circuit,

selectively directing the processing circuit to decode the plurality of coded images, wherein the

processing circuit selectively responds to the code processing circuitry to control the time at

which decode processing will be performed and (2) interface circuitry that assists in delivering

the coded images to the processing circuit for decoding at least after each of the plurality of

images is stored in the image buffer; (The mobile access device selectively processes, stores, and

forwards images. The passage in column 9, lines 25-67 specifically teaches (1) the request by the

capture system and (2) the computer being used to perform the function of the hand-held unit

including decoding processing of the plurality of images. The term "batch" in the passage in

column 8, line 3 clearly teaches that a plurality of images is stored and then transmitted. The

coupling to the memory is through the interface circuitries 926 and 934 in Fig. 9. The citations

with the explanation thus teach the limitation (2) above.)

     - the interface circuitry utilizes wireless transmissions. (elements 948 and 950 of Fig. 9;

column 20, lines 1-11)

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section

102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject

matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to

which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The Bunte et al. (US patent 5,821,523 listed in IDS paper #21) is qualified for 102(e)/103

rejection, because Bunte, at the time the invention was made, was not (1) owned by the same

invention entity or (2) subject to an obligation of the same assignee according to the record

available to the Examiner.

5.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bunte as applied to

Claim 1 above, and further in view of Metlitsky et al. (US patent 5,545,886 cited previously.)

    Bunte teaches the parent Claim 1.

    However, Bunte does not explicitly teach that a composite image is formed from the

images as required.

Metlitsky teaches:

-- capturing a plurality of images from a target by multiple scans; (column 11, lines 41-

52; Each scan generates an image.)

-- wherein the number of the images is predetermined; (column 9, lines 26-36)

-- constructing a composite image from the captured images. (column 11, lines 41-52.)

It is desired to enhance reliability of decoding of a bar code. It would have been obvious

to one of ordinary skill in the art, at the time of the invention, to apply Metlitsky's teaching to

process the images derived from a target using Bunte 's remote capture unit and deliver the

image to Bunte 's host system to form a composite image for decoding, the combination

enhances reliability of decoding of the bar codes.

6.   Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunte as

applied to Claim 1 above, and further in view of Grodevant (US patent 5,260,554 cited

previously.)

Bunte teaches the parent claim 1. However, it does not teach using proximity screening as

recited in the claims.

Grodevant teaches:

-- performing proximity screening of image data from the optical system and initiates a

capturing cycle. (column 4, lines 31-66)

It is desired to be able to initiate decoding of a bar code automatically. It would have

been obvious to one of ordinary skill in the art, at the time of the invention, to apply Grodevant's

proximity screening to initiate image capturing of bar codes for decoding to achieve automatic

examination of bar codes on objects taught by Bunte, because the combination improves

efficiency of bar-code reading.

7.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bunte as applied to

Claim 1 above, and further in view of Tymes (US patent 5,157,687 cited previously.)

Bunte teaches the parent Claim 1.

However, Bunte does not explicitly teach that the recited transition points.

Tymes teaches that a processing circuit converts the image data into a plurality of

transition points. (column 11, lines 4-30)

It is desired to facilitate decoding of a bar code. It would have been obvious to one of

ordinary skill in the art, at the time of the invention, to combine Tymes 's and Bunte's teachings

to convert Bunte's image data into a plurality of transition points for decoding, the combination

facilitates decoding of the bar codes because it provides a better signature of a barcode.

8.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bunte as applied to

claim 1 above, and further in view of Park (US patent 5,675,424 listed in paper #4.)

Bunte teaches the parent claim 1. However, Bunte does not teach parallel decoding as

recited.

Park teaches a parallel decoding method. (Fig. 4; column 3, lines 14-39)

It is desired to be able to use a low-speed decoder as well as high-speed decoder to

decode bar codes and images. As taught by Park, decoding in parallel with a set of decoders can

speed up its overall decoding speed. It would have been obvious to one of ordinary skill in the

art, at the time of the invention, to use parallel decoding taught by Park in the system taught by

Bunte to decode bar codes, because the combination expands the capability of the system by

increasing process speed or allowing the use of low-speed processors.

9.   Claims 8-9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Reddersen et al (US patent 5,475,206 cited previously) in view of Fishbine et al. (US patent

5,467,403 cited previously.)

Reddersen teaches a coded image capture and decoding system comprising:

-- a remote capture unit comprising (column 5, line 35 to column 6, line 13):

- an image processing circuit that generates a plurality of coded images; (column

5, lines 40-67; column 6, lines 9-13; The term "batch" indicates generating many images.)

- an optical system operably coupled to the image processing circuit, wherein the

optical system reads a target to produce image data and transfers the image data to the image

processing circuit; (column 5, lines 40-55)

- wherein at least one of the coded images comprises a plurality of values, each

represents a transition point in the image; (column 16, lines 37-52; column 18, lines 1-15)

- an image buffer, coupled to the image processing circuit, that stores the plurality

of coded images generated by the image processing circuit; (column 6, lines 1-13; Decoding is

optional according to column 6, line 1. For the current case, the Examiner selects a case without

decoding. Accordingly, the stored images are the formatted information which is coded image

information.)

-- a host unit comprising (column 6, lines 9-13; the remote data terminal):

- a processing circuit that decodes processing of coded images; (column 4, lines 8-13; In the remote terminal, decoding of the image information is performed. Therefore, there is a decoding circuit in the terminal.)

-- a wireless link from the scanner to the remote terminal. (column 4, lines 8-13)

However, Reddersen is silent about the interface circuitry in the host unit.

Fishbine teaches an interface circuit in a host unit to assist in delivering images from a remote terminal to a host-processing unit through a wireless transmission. (Column 3, lines 24-35; column 7, lines 32-45; The interface circuit 32 is the circuit.)

It is desired to have an interface circuit to receive RF signals to facilitate data transfer. Reddersen taught RF link for data transfer. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to add interface circuits taught by Fishbine in Reddersen's system, including one in the host side, because the combination facilitates RF data transfer. In the combination, the interface circuitry assists in delivering the coded images in the Reddersen's system to the processing circuit from the remote capture unit for decoding after the batch of images are stored in the image memory of Reddersen.

10.   Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen in view of Fishbine as applied to claim 8 above, and further in view of Metlitsky et al. (US patent 5,545,886 listed in paper #12.)

Reddersen in view of Fishbine teaches Claim 8 as discussed above. However, it does not teach "attempting to generate a predetermined number of coded images."

Metlitsky teaches:

-- capturing a plurality of images from a target by multiple scans; (column 11, lines 41-52; Each scan generates an image.)

-- wherein the number of the images is predetermined; (column 9, lines 26-36)

-- constructing a composite image from the captured images. (column 11, lines 41-52.)

It is desired to enhance reliability of decoding of a bar code. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Metlitsky's teaching to capture and store a predetermined number of images derived from a target as a batch of images using Reddersen's remote capture unit and deliver the image to the host system taught by Reddersen in view of Fishbine to form a composite image for decoding, the combination enhances reliability of decoding of the bar codes.

11.   Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen in view of Fishbine as applied to claim 8 above, and further in view of Grodevant (US patent 5,260,554 listed in paper #12.)

Reddersen in view of Fishbine teaches the parent Claim 8. However, it does not teach using proximity screening as recited in the claims.

Grodevant teaches:

-- performing proximity screening of image data from the optical system and initiates a capturing cycle. (column 4, lines 31-66)

It is desired to be able to initiate decoding of a bar code automatically. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Grodevant's proximity screening to initiate image capturing of bar codes for decoding to achieve automatic

examination of bar codes on objects taught by Reddersen in view of Fishbine, because the

combination improves efficiency of bar-code reading.

12.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen in

view of Fishbine as applied to claim 8 above, and further in view of Shreesha (US patent

5,798,516 listed in paper #12) and Park (US patent 5,675,424 listed in paper #4.)

Reddersen in view of Fishbine teaches the parent Claim 8. However, Reddersen in view

of Fishbine does not teach using a reference and generating differences between the images as

recited.

Shreesha teaches using a scanner to capture a plurality of images representative of a

coded target for decoding. The images are taken at several points near a focused condition to

gain an image having an excellent image quality. (Column 4, lines 24-65)

It is desired to decode a bar code efficiently with a CCD scanner. As pointed out by

Shreesha, this can be done by capturing pictures of a bar code at several points near a focused

condition to gain an image having an excellent image quality. It would have been obvious to one

of ordinary skill in the art, at the time of the invention, to apply Shreesha's teaching to capture a

batch of images, store them, and process them in the system taught by Reddersen in view of

Fishbine, because the combination improves decoding efficiency of bar codes with a CCD

scanner.

Park teaches the MPEG compression method. (Abstract) The MPEG method is the most

useful method for compressing a sequence of images. In the method, the first image is used as a

reference and the differences between the reference and its subsequent images are derived. Both the reference and the differences are coded.

It is further desired to transfer data in an efficient compressed form to gain transmission speed. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Park's MPEG compression method to compress the images generated in the remote unit and transmit the compressed images to the host unit taught by Reddersen in view of Fishbine and Shreesha, because the combination provides an efficient data storage and transmission.

13.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen in view of Fishbine, Shreesha, and Park as applied to claim 10 above, and further in view of Grodevant.

Reddersen in view of Fishbine, Shreesha, and Park teaches the parent Claim 10. However, it does not teach using a proximity detector as recited in the claims.

Grodevant teaches:

-- a proximity detector that enables operation of the capture and decoding system whenever a target is detected. (column 4, lines 31-66)

It is desired to be able to initiate decoding of a bar code automatically. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply Grodevant's proximity detector to initiate image capturing of bar codes for decoding to achieve automatic examination of bar codes on objects taught by Reddersen in view of Fishbine, Shreesha, and Park, because the combination improves efficiency of bar-code reading.

Conclusion

14.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Wenpeng Chen whose telephone number is 703 306-2796. The

examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David K Moore can be reached on 703 308-7452. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-872-9314 for regular

communications and 703-872-9314 for After Final communications. TC 2600's customer service

number is 703-306-0377.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703 305-4700.

                                                        Wenpeng Chen
                                                        Primary Examiner
                                                        Art Unit 2624

December 3, 2001